
INTRODUCTION

الترم الاول فى الـ Para هندرس helminthes وهى نوعين ←

1) Flat worms (platyhelminths):

- a- One piece → trematoda (flukes).
- b- Segmented → cestoda (tape worms).

2) Cylindrical worms (Nematelminths):

- a- Nematoda

و فى الترم الثانى هندرس protozoa و arthropods

1) Protozoa

- Unicellular organisms that can affect GIT, RBCs, blood & tissues and many different systems.

2) Arthropods

زى الذباب و البعوض ... لازم فيها نعرف:

- Medical importance "the disease that it transfers".
- Mechanism of disease transmission.
- Control "reading for oral".

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How to study parasitology??

لازم تعرف نقط معينة عن كل parasite :

- 1- هل موجود فى مصر و لا لا ؟
- 2- هل الـ adult parasite ده بيعيش فى جسم العيان ؟ و فى الحالة دى هنسمى العيان (**definitive or final host**)
- 3- مكان فى جسم العيان بيعيش فيه الـ parasite و هنسميه **habitat**.
- 4- الـ young stages بتاعت الـ parasite بتبقى عايشة فين؟؟ المريض او الكائن فى الحالة دى بنسميه **intermediate host**.
- 5- طريقة العدوى و الطور المعدى **mode of infection & infective stage**.
- 6- الاضرار اللى بيسببها على المريض **pathogenesis**.
- 7- الصورة المرضية اللى هى الشكوى اللى هيجيلك بيها العيان **clinical picture**.
- 8- **methods of diagnosis and diagnostic stage**
- 9- طريقة العلاج **treatment** بدون حفظ الـ dose .. هت حفظ اسم الـ drug و بيتكرر و لا لأ و ليه و لو معاه نوع اكل معين .
- 10- **prevention and control**

Fasciola (liver fluke)

Causes fascioliasis

▪ Geog. Distribution:

Fasciola gigantica: in cattle raising countries

Fasciola hepatica: in sheep raising countries

▪ Life cycle:

Infected human or animal → eggs pass in stool → in water → hatching miracidium → in snail cercaria develops "2 types of snails: *L.cailiaudia* in case of *F.gigantica* & *L.truncatula* in case of *F.hepatica* → then encysted metacercaria develops.

- **Final host** → human
- **Reservoir host** → animal
- **Diagnostic stage** → eggs
- **Intermediate host** → snails
- **Infective stage** → encysted metacercaria
- **Mode of infection** → having a meal of vegetables with encysted metacercaria.

■ **Pathogenesis:**

لو العيان اتصاب بواحدة بس encysted metacercaria ممكن يحصل

← spontaneous healing لكن لو كتير هيجصل الاتى

1. Destruction and necrosis of liver parenchyma by migrating immature flukes.
2. Flukes cause obstruction of bile duct, inflammation & proline activity.
3. Hyperplasia of biliary epithelium & fibrous thickening of the duct.
4. Periductal fibrosis and pressure atrophy on adjacent liver tissue.
5. Minute abscesses form around eggs trapped in parenchyma.
6. Flukes may lose way & cause ectopic lesions.

■ **Clinical picture:**

عشان بتخترق جدار الامعاء:

1. Digestive disturbance & diarrhea.

Allergic manifestations نتيجة افرازات الطفيل قبل وصوله للكبد

2. Fever, urticaria & bronchial asthma.

نتيجة تمزق capsule الكبد

3. Pain in the right hypochondrium.

لما تضغط على ال liver المريض يحس بألم

4. Enlarged tender liver.

لانسداد ال bile duct

5. Cholangitis, cholecystitis & obstructive jaundice.

■ **Diagnosis:**

Clinically: fever & hepatomegaly

Laboratory:

- 1) detection of eggs in stool or duodenal aspiration
- 2) Immunological tests "searching for the antigen in stool (copro-antigen) or antibodies in serum.
- 3) Blood examination: anemia and high eosinophilia

Radiologically:

- 1- بالمنظار و بيبقى اخره لمبة يقدر يشوف بيها الـ duodenum تحت الميكروسكوب
which is called endoscopic retrograde cholangiography
- 2- Ultrasonography.
- 3- Percutaneous cholangiography.

■ **Treatment:**

Triclabendazole.

■ **Control:**

Mass treatment

Proper washing of vegetables

Safe water supply

Snail control